## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization

International Bureau



## ) (BERTA BUILDERN IN BUILDER (IGN) BUILD BUILD BUILD HIN IN BUILD BUILD BUILD BUILD BUILD BUILD BUILD BUILD BUILD

(43) International Publication Date 4 November 2004 (04.11.2004)

**PCT** 

(10) International Publication Number WO 2004/095531 A2

(51) International Patent Classification<sup>7</sup>:

H01L

(21) International Application Number:

PCT/US2004/006078

(22) International Filing Date: 17 March 2004 (17.03.2004)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data:

60/458,043

28 March 2003 (28.03.2003) US

(71) Applicant (for all designated States except US): TOKYO ELECTRON LTD [JP/JP]; TBS Broadcast Center, 3-6 Akasaka 5-chome, Minato-ku, Tokyo 107-8481 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): MITROVIC, Andrej [YU/US]; 4720 E. Winston Dr., Phoenix, AZ 85044 (US).

(74) Agent: SACHAR, Surinder; Oblon, Spivak, McClelland, Maier & Neustadt, P.C., 1940 Ducke Street, Alexandria, VA 22314 (US). (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

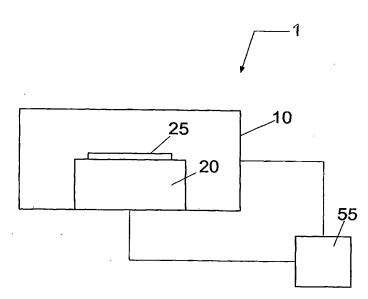
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR TEMPERATURE CONTROL OF A SUBSTRATE



(57) Abstract: A substrate holder for supporting a substrate in a processing system and controlling the temperature thereof is described. The substrate holder comprises a first heating element positioned in a first region for elevating the temperature of the first region. A second heating element positioned in a second region is configured to elevate the temperature in the second region. Furthermore, a first controllably insulating element is positioned below the first heating element, and is configured to control the transfer of heat between the substrate and at least one cooling element positioned therebelow in the first region. A second controllably insulating element is positioned below the second heating element and is configured to control the transfer of heat between the substrate and at least one cooling element positioned therebelow in the second region.

